Project Fact Sheet

Recovery and Redundancy of Transportation Management Centers

Project Significance

As Transportation Management Centers (TMCs) become an increasingly integral part of the transportation infrastructure, they have also become an increasingly important part of emergency response / recovery operations. If a region's TMC is disabled, paralyzed, or temporarily shut down, that region's ability to manage critical aspects of both day-to-day and emergency status operations will be hindered, possibly resulting in disastrous consequences. Hence, there is a need to examine methods to provide TMC recovery and redundancy. This project will provide a comprehensive source of direction to those responsible for recovery and redundancy of TMC operations under various challenging circumstances.

Project Purpose

This primary purpose of this project is to develop a technical document that provides guidance and recommended practices on planning, initiating, developing, and implementing recovery and redundancy plans for TMCs. The document will include a characterization of recovery and redundancy within the TMC environment, why recovery and redundancy of TMC's is important, and guiding principles for user agencies to identify and address needs related to recovery and redundancy of their TMC.

The resulting technical document will present detailed information and guidance, including summaries of research performed on pertinent documents and experience-based recommendations from on-site interviews. Applicable literature will be identified to establish a host of sources that range from those relating to the subject more generally, to those relating to specific technical areas. On-site interviews will be conducted at a variety of TMC's to collect recovery and redundancy best practices, lessons learned, practical solutions, and functional examples of resources such as emergency plans and secure network layouts.

Intended Audience

The resultant products will be geared toward individuals involved in the planning, design, operation, and / or maintenance of a TMC. Different agencies that are expected to benefit include state DOTs, metropolitan planning organizations (MPOs), transit agencies, enforcement agencies, and others with a role in a TMC. Specific users may include TMC mangers, first-level supervisors, or technical staff.

Key Subjects

Key Challenges:

- Loss of infrastructure (e.g., buildings, utilities, communications, etc.)
- Loss of key personnel (e.g., employment actions, sickness, etc.)
- Loss of systems (e.g., hardware, upgrades, unique occurrences, errors, etc.)
- Community-wide disasters (e.g., civil emergencies, flooding, weather, etc.)

Key Topics:

- Issues and methods for the planning, design, development, and implementation of TMC recovery and redundancy
- Needs assessment and prioritization
- Determination of tolerance and "down time" thresholds
- Evacuation operations considerations for TMC recovery and redundancy requirements
- Recommended mitigation measures
- The merit of tabletop exercises
- The need for additional research, training, or technology transfer initiatives
- The development of a TMC recovery checklist
- Funding

Recommended Mitigation Strategies:

- Redundancy of staff, central systems, field devices, and communications infrastructure
- Documentation of standard operating procedures and emergency operating procedures
- Testing of back-up systems, operational procedures, drills, and table top exercises
- Security for both physical infrastructure and data

Project Deliverables

In addition to the technical document, a number of outreach materials will be prepared and made available. These materials include:

- Project Fact Sheet
- Project Presentations
- Subject Presentations
- Distribution Plan

Project Contact

Raj Ghaman
Federal Highway Administration
Turner Fairbanks Highway Research Center
HSR-11
6300 Georgetown Pike
McLean, VA 22101

Phone – (202) 493-3270
Fax – (202) 349-3419
Raj.Ghaman@fhwa.dot.gov

U.S. Department of Transportation
Federal Highway Administration